

TAN WEI ZHEN

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Skills

- C/C++, C#, Java, Python(Pandas, Scikit-learn)
- SQL
- OpenGL, FMOD,
- Visual Studio, Visual Studio Code
- Android Studio, Kotlin, Jetpack Compose
- Unity
 - Photon PUN 2/Fusion, Azure Playfab, Firebase, XR Interaction Toolkit
- MySQL, Microsoft SQL Server
- Microsoft Internet Information Services(IIS)
- Ubuntu

Education

DigiPen Singapore & Singapore Institute of Technology Aug 2022 - May 2027

Bachelor of Science in Computer Science in Real-Time Interactive Simulation

Nanyang Polytechnic Apr 2019 - Mar 2022

Diploma in Game Development & Technology

- MSC Maritime Digital Challenge Kanda Challenge Statement Champion (2021)
 - Developed VR prototype for Oculus Quest 2 using Unity Engine

Work Experience

Unity Developer

Turbo Jatt

Oct 2024 - Feb 2025

- Metaverse app, Unity3D Multiplayer Mobile project using Photon Fusion
- SMS verification using Twilio
- Send/Retrieve data from Tencent Cloud Object Storage

Game Development Internship

YOOZOO Games

Mar 2022 - Jun 2022

- Indoor navigation app, Unity3D Mobile AR project using ARFoundation
- Worked on chatbot prototype using gRPC

3D Intern

RoyceMedia Technologies

Nov 2021 - Feb 2022

- Digital Twin to monitor building equipment, Unity3D WebGL project
- Equipment viewer, Android AR prototype using ARFoundation
- Made a simple multiplayer game prototype to learn how to use MQTT messages
- Create/Update REST API calls with ASP.NET core to send/retrieve data from database
- Send and Retrieve data using MQTT

Robotics Trainer

School of Robotics

May 2019 - Jan 2020

- Plan and prepare teaching materials
- Train and engage students with STEM Robotics & Coding enrichment courses
- Guide students to develop problem-solving and computational skills

Projects

3D Custom Game Engine and Tools Team of 12	Sep 2025 - Ongoing
Editor	
<ul style="list-style-type: none">• C++, OpenGL Windows Application able to support making a 3D physics-based action adventure game.• Asset Browser with Filewatcher, Assets Pipeline with multi-threading to speed up asset compile times, and helped with game programming.	
Engine	
<ul style="list-style-type: none">• Static library• Designed the core engine architecture with EnTT(and Reflection (entt::meta)), did the Animation System and Materials Pipeline, and Resource Manager with lazy loading.	
Resources Tool	
<ul style="list-style-type: none">• Command-line Application.• Compile assets such as textures, fonts, 3D models etc using compressorator, freetype, assimp into resources for the engine.	
Customer Database Android App	Sep 2025
<ul style="list-style-type: none">• Made with Unity for Android platform with Firebase for real-time database updates• Designed an interface for tracking customer details and visit history.	
3D Graphics Engine	Jul 2025 - Aug 2025
<ul style="list-style-type: none">• C++, OpenGL project with Dear ImGui, Eigen library• 3D model loading using assimp, primitives intersection tests, Bounding Volume construction(AABB,spheres,OBB), Bounding Volume Hierarchy, View Frustum Culling, Octree, Kd-tree• Built from scratch for Spatial Data Structures module.	
2D Custom Game Engine and Tools Team of 8	Aug 2023 - Apr 2024
<ul style="list-style-type: none">• C++, OpenGL Windows Application able to support making a 2D physics-based platformer game• Core Systems: Implemented a custom Entity-Component System based on a Sparse-set data structure for high-performance component data locality• Audio System: Integrated FMOD to support spatial audio and complex sound event handling.• Helped with Gameplay programming	
VR Multiplayer Training Simulation Team of 5	Aug 2021 - Nov 2021
<ul style="list-style-type: none">• A virtual reality, real-time multiplayer, account-based, personalised training system(serious gaming)• Made using Unity Engine for Oculus Quest 2 with Photon PUN2 and Playfab	